

**AGRICULTURE (Code No. 068)
CLASS XII (THEORY) 2014-15**

One Theory Paper

70 + 30 = 100 Marks

Unit Wise Weightage

Time: 3 hours

SECTION		Marks	Periods
I	Advanced Crop Production and Organic Farming	25	42
	Unit-I Advanced Crop Production: Unit-II Organic Farming		24
II	Food Processing, Value Addition and Post-Harvest Management	25	22
	Unit III: Food Processing Unit IV: Value Addition and Post-Harvest Management		42
III	Subsidiary Enterprises of Agriculture	20	40
	Unit V: Subsidiary Enterprises of Agriculture		
	Practical	30	50
	Total	100	220

SECTION - I

Total periods -66

Unit- I: Advanced Crop Production

42 Periods

- Food production including horticultural crops and its importance in the economy and nutritional security.
- Soil fertility, productivity and concept of essential plant nutrients. Classification of essential plant nutrients.
- Roles and functions of essential plant nutrients, their important deficiency symptoms.
- Soil samplings and its processing . Testing of soil for pH and Organic Carbon.
- Introduction to manure, fertilizers. Bio-fertilizers, their methods of application. Concept of Integrated Nutrient Management (INM).
- Concept of soil moisture availability and irrigation methods, soil moisture regimes. Concept of precision and pressure irrigation. Drip and sprinkler irrigation.
- Methods of insect pest and disease management Chemical, Biological and Mechanical. Concept of Integrated Pest Management (IPM).

Unit - II: Organic Farming

24 Periods

- Concept, history and importance of Organic farming.
- Present status and contribution in the National economy.
- Important food products grown organically. Important Government Schemes for the promotion of organic farming in our country. Kitchen gardening.

SECTION-II

Total periods -64

Unit III: Food Processing

22 Periods

- Concept of post harvesting handling of fruits, vegetables and flowers. Status of food processing in our country.
- Principles and methods of food processing and preservation. Benefits of food processing.
- Setting up of food processing enterprise. Important Government Schemes in support of food sector.

Unit IV: Value Addition and Post-Harvest Management

42 Periods

- Important value added products from fruits and vegetables. Preparation of jam, jelly, ketchup, morabba, pickles, marmalade.
- Packaging, quality benchmarks and their marketing including export.
- Flowers, their harvesting and processing.
- Important processed flower products, packaging, storage and their marketing.
- Production of important value added products from Cereals, Pulses and Oil seeds.
- Concept of safe food and important food regulations.

SECTION-III

Total Periods -40

Unit V: Subsidiary Enterprises of Agriculture

- Important subsidiary enterprises based on Agriculture including Horticulture and their importance in the socio-economic status of an individual.
- Mushroom, their nutritional status and methods of production
- Beekeeping and its important usage and importance of Honey, Wax and Royal jelly.
- Landscaping and development and maintenance of lawns and avenue gardens.
- Preparation of Bio-pesticides (plant based), Organic manures (composts) and Vermicomposting.
- Setting up nurseries and marketing of plant sapling and important Govt. Schemes for the support of these enterprises.

**AGRICULTURE (Code No. 068)
CLASS XII (PRACTICAL) 2014-15**

One Practical Paper

30 Marks
Time: 3 Hours

Unit Wise Weightage

(Periods 60)

SECTION		PERIODS	MARKS
I	Advanced Crop Production and Organic Farming	22	08
II	Food Processing, Value Addition and Post-Harvest Management	14	06
III	Subsidiary Enterprises of Agriculture	14	06
IV	Collection and Visit Report	05	
V	Viva Voce		05
	Total	50	30

SECTION: I

Unit I: Advanced Crop Production and Organic Farming

22 Periods

- (a) Soil sampling and determination of Soil pH.
- (b) Determination of Soil organic carbon content.
- (c) Preparation of nursery and seed beds.
- (d) Seed treatment with fungicides and Bio-fertilizers.
- (e) Identification of different types of chemical fertilizers, composts, bio-fertilizers.
- (f) Calculation of fertilizer requirement of crops (for wheat, rice and maize) based on their nutrient needs.
- (g) Methods of Sowing/planting.
- (h) Intercultural operation hoeing, weeding, earthing up.
- (i) Preparation of FYM and Compost.
- (j) Uses of sprayers and dusters for pest control and nutrient spray.
- (k) Determination of moisture content of crop seeds (wheat, rice, maize and mustard).
- (l) To find out 100-grain weight of crop seeds (wheat, rice, maize and mustard).
- (m) Visit to a crop field and compare healthy plant with a diseased and insect affected plant.
- (n) Identification of different types of Insecticides, Fungicides and Herbicides.

SECTION: II

Unit II: Food Processing, Value Addition and Post-Harvest Management 14 Periods

- (a) Preparation of Jam, Jelly, ketchup and Morabba
- (b) Preparation of pickles.
- (c) Identification of fresh and aged vegetables and fruits.

- (d) Visit to cold storage and record the storage of various fruits and vegetables.
- (e) Harvesting and packaging of flowers.
- (f) Preparation of flower arrangements such as garland and rangoli.
- (g) Visit to a flower mandi and record the activities in the mandi.
- (h) Visit to a local fruit market and record the activities in the market.
- (i) Visit to a local vegetable haat or mandi and record the activities in the mandi.

SECTION: III

Unit III: Subsidiary Enterprises of Agriculture

14 Periods

- (a) Preparation of plant based bio-pesticides (neem)
- (b) Mushroom production (purchase of spawn of available species of mushroom and wheat straw, inoculation and production).
- (c) Visit to nearby apiary and record the process of beekeeping.
- (d) Observe the characteristics of different bee products (honey and wax).
- (e) Visit to a vermicomposting unit.
- (f) Observe the characteristics of compost obtained from pit.

Notes:

1. The students have to prepare a report on the visits recording their observations on the subject.
2. In case of practical of fruit and vegetable preservation and methods of production of value added products from fruits and vegetables, the student will have to write the procedure adopted and the necessary precautions to be taken in the answer sheet provided.

SECTION - IV

Report on the Visits

1. The student have to prepare a report of their visit to different organizations and submit to the class teacher for the evaluation. The report must contain the student's original work and observations.
2. Prepare Herbarium of different crops and weed species. The leaves of the crops and weeds are pressed dried and mounted on the Herbarium sheet.

SECTION - V

Viva Voce

Students can be asked questions based on:

- (i) Identification of objects
- (ii) Visit Report analysis.
- (iii) Experiences in their filed visits, etc.

A range of 5 to 10 questions can be asked depending on the response of the student. Evaluation $5 \times 1 = 5$ Or should be based on number of questions answered. Evaluator should stick to the time and $\frac{1}{2} \times 10 = 5$ number of questions.

**DESIGN OF THE QUESTION PAPER
CLASS – XI 2013-14, CLASS – XII 2014-15**

Time: 3 hrs.

Marks: 70

Subjects: AGRICULTURE (Theory) Code: 068

S. No.	Typology of Questions	Learning Outcomes & Testing Skills	Short Answer -1 Mark	Short Answer - 2 Marks	Long Answer -I 5 Marks	Long Answer-II 10 marks	Marks	%
1	Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define, or recite, information); Map skill based questions (Identification, location)	<ul style="list-style-type: none"> • Reasoning • Analytical Skills 	2	1		1	14	20%
2	Understanding- (Comprehension –to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)		1	1	2		13	18%
4.	Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation, provide an example, or solve a problem)		1		2	1	21	30%
5	High Order Thinking Skills (Analysis & Synthesis- Classify, compare, contrast, or differentiate between different pieces of information; Organize and/or integrate unique pieces of information from a variety of sources)			1	1	1	17	25%
6	Evaluation and Multi-Disciplinary- (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)		1	2			5	7%
TOTAL			5x1 =5	2x5 = 10	5X5 =25	3X10 =30	70	100 %

Note : No Chapter wise weightage, care should be taken to cover all chapters.